

# Developing Copper-Silver Projects in World Class Copper Range District Upper Peninsula, Michigan, USA



# HIGHLAND Copper Company Inc.

## Who is Highland Copper?

#### **Projects**

- Developing the low capital intensity Copperwood Project (CW-100%), which has all major permits in place, into the U.S.' next copper mine
- Growth will come from progressing the White Pine North Project (WPN 100%-subject to closing) adjacent to
  past producer, exploiting a large historical copper resource and other available infrastructures.
- Recent RTX transaction establishes Highland/UPX as the dominant mining exploration and development company in Michigan with highly prospective/under-explored exploration opportunities
- Launching Highland Copper as a junior North American copper producer in this cycle

#### **People**

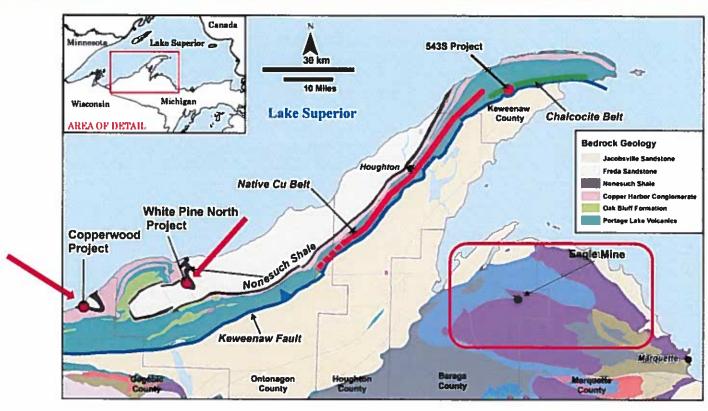
- Strong management and technical team with proven mine-building skills
- CEO Denis Miville-Deschênes has more than 30-years of experience in mine design, development and construction, most recently at IAMGOLD

#### **Capital Markets**

 Strong supportive shareholder base, including major shareholders Greenstone Resources II L.P., Osisko Gold Royalties Ltd, and Orion Mine Finance



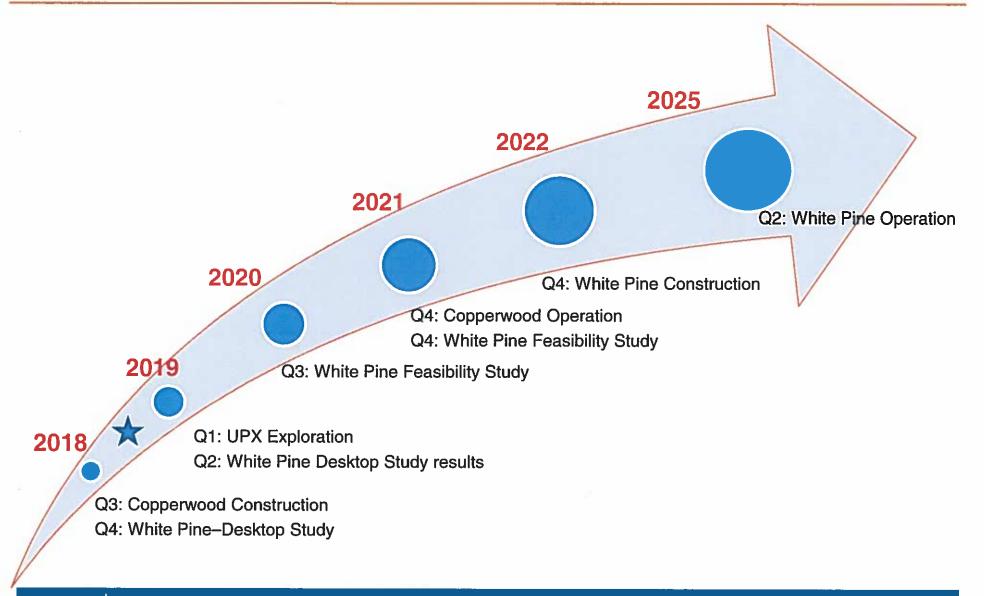
## **Dominant position in Michigan Copper Belt**



- Established mine-friendly jurisdiction with over 100 years of mining
- White Pine mine operated for 43 years, is a 2<sup>nd</sup> decile world class sediment-hosted copper-silver deposit. Over 8Bn lbs. of copper in historical resource
- Copperwood is at median for sediment-hosted copper deposits in terms of tonnage and grade with potential to improve significantly
- District offers excellent potential for using modern continuous mining technology and further exploration upside.



# **Highland Copper – 5 Years plan**







#### **Highland Copper expenditures to date and forecast:**

- Expenditures to date since 2012: \$75 Million
- Construction Capital Forecast Estimated 2018 to 2020: \$300 Million
- Michigan Severance Tax Estimated \$50 Million
- Life of Mine Operating Investment Estimated 2020 to 2033: \$1.2 Billion
  - Labor wages
  - Contractors and Consultants
  - Suppliers and Services

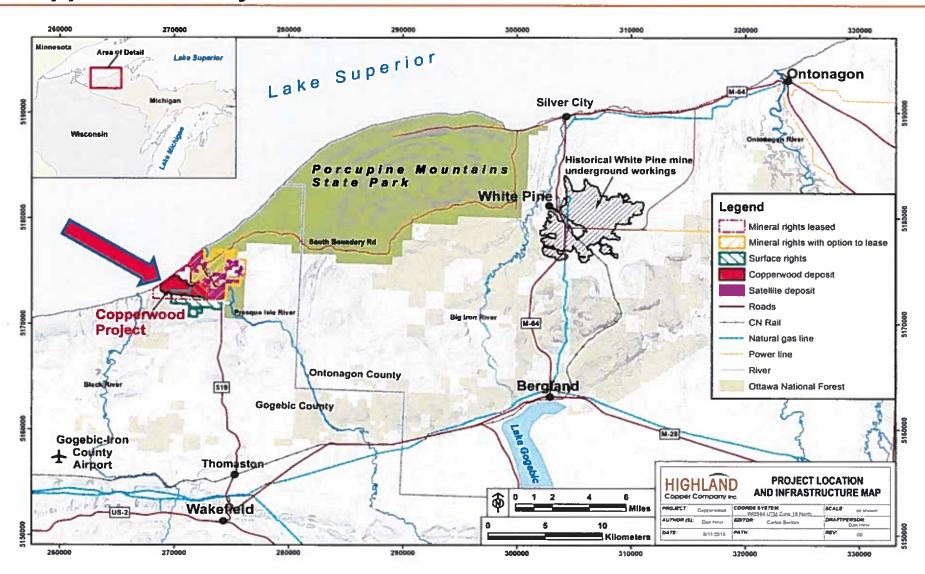


# **Copperwood Project – Michigan's Next Mine**



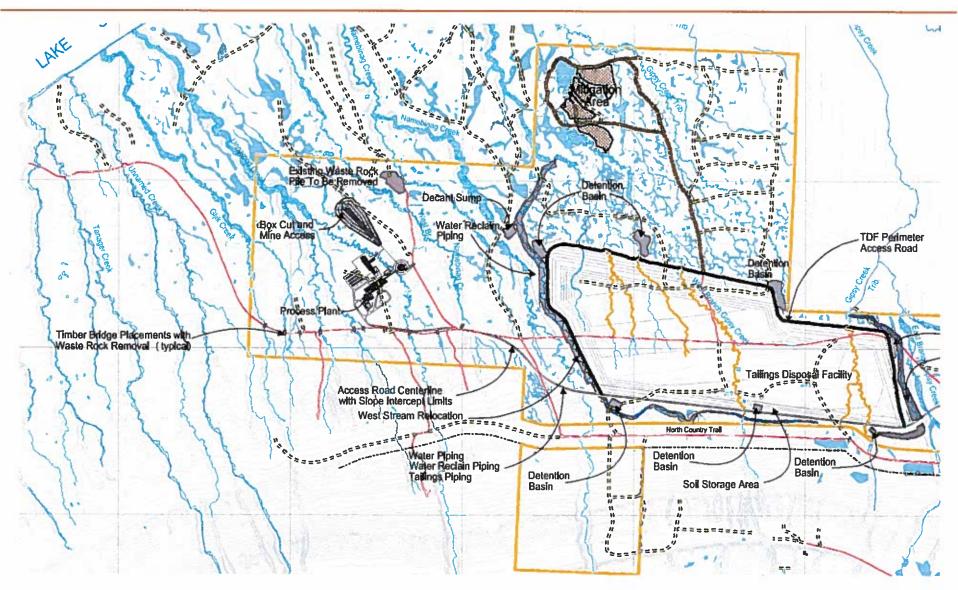


# **Copperwood Project Location and Infrastructure**





### **Infrastructures**





# Copperwood Project (CW): New approach

#### **Current Situation**

- Feasibility study completed in Feb. 2012 (Orvana), with estimated development capex of US\$213.5M
- All major permits in place



#### **Opportunities**

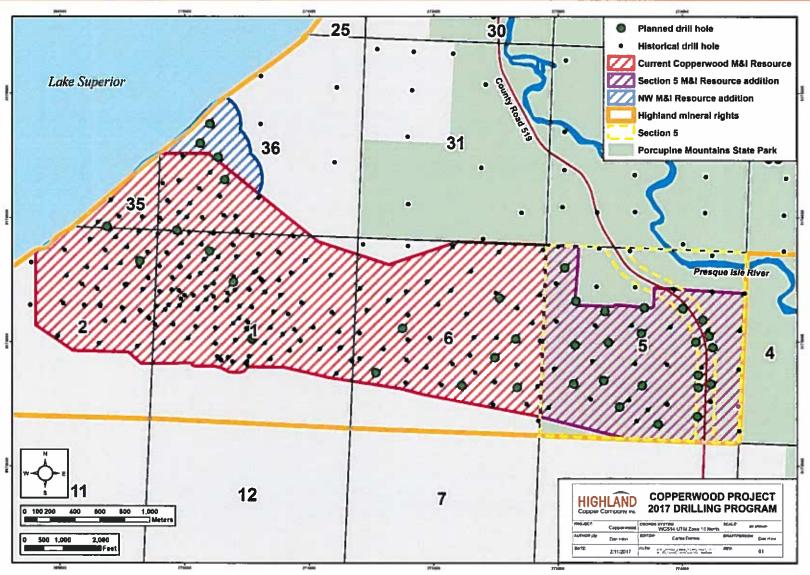
- Innovative continuous mining technologies combined with conventional methods.
- Implementation of new technology –Cloud /Private LTE
- Examine tailing disposal alternatives offering significant capex savings
- Update feasibility with new capital/operating cost estimates and mine plan.
- Talent Development





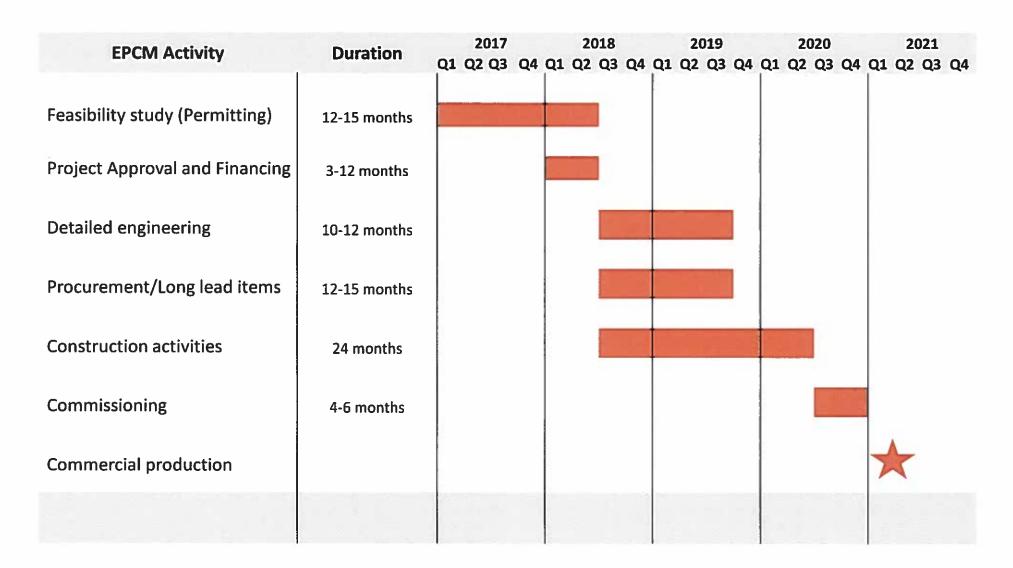


## CW-2017 Drill program complete: 46% Increase in M+I Resource





## **CW Project Timeline and Milestones**





# White Pine North Project (WPN) – Next Mine UP!





## White Pine North Project<sup>®</sup> (WPN)

- White Pine mine produced 4.5Bn lbs of copper
   at 1.14% Cu between 1952 and 1995, another
   2.0 Bn lbs. remain in resource
  - White Pine ceased production due to depressed copper prices
- Significant infrastructure in place (road, rail, power, water, offices, etc.) owned by third parties
- Large historical\* (non 43-101 compliant) estimate
- Use of continuous mining of Parting Shale unit could lead to lower operating cost and higher head grade when combined with traditional room and pillar methods
- Desktop studies in 2018.

#### (1) Subject to final closing

\*The mineral reserves and mineral resources reported are provided as historical data only. A qualified person has not completed the work necessary to verify the quality of the historical exploration data or to classify the historical estimate as current mineral resources or mineral reserves. Highland is not treating the historical estimate as current mineral resources or mineral reserves and the historical data should not be relied upon until they have been verified.

#### Historical estimate of resource

	Short tons	% Cu	Contained metal
WP North	82.6 M	1.02%	1.7 Bn lbs





# **UPX Exploration - Future Projects**



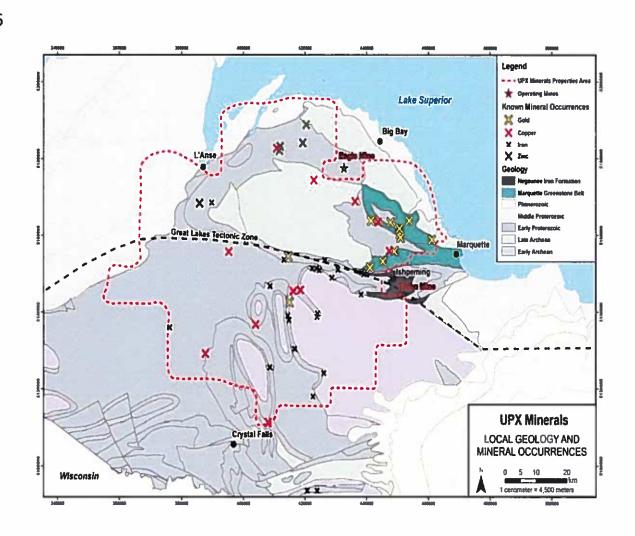
# **UPX: Dominant exploration company- Michigan**



- Acquired UP properties for US\$18 m/6 years from Rio Tinto Group. UPX property covers over 447,000 acres of non-contiguous minerals rights in the Marquette area
- Extension of Superior province of the Canadian Shield into US.

#### Potential for 3 distinct deposit types:

- 1. Ni-Cu massive sulphides (Eagle mine)
- 2. Orogenic gold & BIF's (Hemlo deposit)
- 3. Sed-hosted Zn-Pb-Ag
- Creates project pipeline in underexplored, highly prospective area





# **Executive Summary**

What's next , major milestones:			
Description	Completed		
Grant A – Road 519	Approved-Feb 2018		
Energy: Natural Gas pipeline	Discussion ongoing		
Permitting: Air Permit, Wetlands, Water Withdrawal, NPDES, Part 632	<ul><li>Application ongoing</li><li>Approbation targeted : Q3-2018</li></ul>		
Copperwood Project	<ul><li>Construction Q3-2018</li><li>Operation Q1-2021</li></ul>		
White Pine Project	<ul> <li>Desktop Study Q2-2018</li> <li>Feasibility Study: Q3-2020</li> <li>Construction: Q4-2022</li> <li>Operation: Q2-2025</li> </ul>		
Legislative : Part 31 Water Resource Protection	Planned 2018		
UPX Minerals- Future projects	• Priority		



# Proposed Revision to Part 31 Water Resource Protection



# Proposed Revision to Section 3116 of Part 31 Water Resources Protection



#### **Highland Copper**

- Highland Copper plans to develop base metal mines in Michigan, including copper, nickel, gold, and other base metals. Part 31 only refers to copper and iron.
- Investors are working now to invest in the current and long term future of Highland Copper. The
  decisions made now affect the viability of the project.
- Re-using old mined out pits to deposit tailings is viewed as environmentally advantageous.
- Lundin Mining's Eagle Mine has repurposed their Humboldt pit which is a good example of this concept.
- The pits are typically located in brownfield areas that also have associated infrastructures available, roads, rail, electricity, water, etc.
- Part 632 has requirements for environmental closure, reclamation, and financial assurance which will benefit the long term closure of any of these repurposed pit locations.
- Availability of pits can potentially reduce the impacts new mines may bring and create a best practices approach to future mine development.

# Proposed Revision to Section 3116 of Part 31 Water Resources Protection



#### **Tailings basins**

- Tailings disposal facilities or "tailings basins" are integral parts of any hard rock mining operation.
- These facilities may be established in existing lakes, mined out pits, or on land.
- They may or may not be designed to include outfalls to surface waters of the State.
- They may be combined with waste water treatment operations for other aspects of the mining process or used entirely for holding tailings.
- Several provisions of Parts 631 and 632 relate directly or indirectly to tailings basins in the permitting approval process.
- For instance, Section 63205 has requirements for an environmental impact assessment and an environmental protection plan which must address how tailings facilities are protective of the environment, including water resources.
- It also includes specific provisions regarding tailings leachability and surface water runoff and applicable financial assurance and monitoring requirements.
- A Part 631 or 632 permit is not effective until other state and federal permits associated with the project are issued, including a NPDES permit if the tailings basin has an outlet discharging effluent to a public water body.

# Proposed Revision to Section 3116 of Part 31 Water Resources Protection



#### **Proposed revision intended to achieve 2 things:**

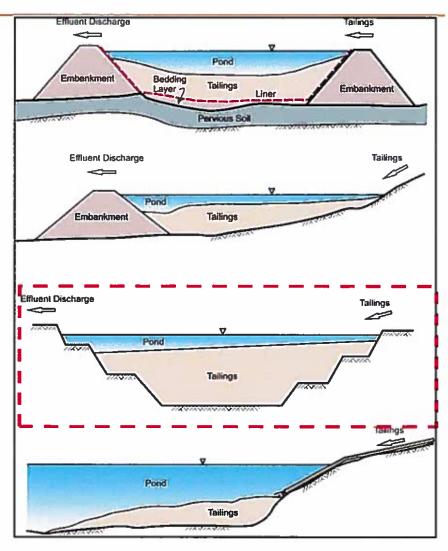
- One; specifically make tailings facilities of all types of regulated ferrous and nonferrous mining operations subject to exemption instead of only the two minerals mentioned (copper and iron); and
- Two; clarify the language of the exemption for tailings facilities and bring it more into alignment with Parts 631 and 632 and actual mining practices.
- We believe these changes would meet the purposes described on the previous slides and maintain the integrity of the State of Michigan programs in protecting the water resources of the State.



# **Environmental Management**

#### **Subaqueous tailings deposition:**

- Particularly suited to tailings that contain sulphides that are likely to oxidise, mobilise metals and produce acid.
- Restricting oxygen to the tailings by permanently placing them underwater will prevent oxidation and minimise the environmental problems associated with acid mine drainage.



Tremblay, 1998

# Thank you



# Questions